

### **Abstract**

The present invention is directed generally to compositions and methods for enzymatic reduction of adhesion by a microorganism to cells, tissues, extracellular matrix, teeth, and/or dental prostheses. The compositions of the invention include pharmaceutical  
5 compositions and oral care compositions containing an enzyme that can reduce binding of a microbe to a cell, a tissue, or a surface. Suitable enzymes include a polyphenol oxidase and an asparaginase.